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ABSTRACT

The Maryland Higher Education Commission surveyed more than 2,500 employers in the state to learn what programs at various degree levels were desired by employers. The results were examined along with labor market data about the projected number of job openings in specific occupational areas. It was concluded that nearly 60 percent of job openings in Maryland through the year 2005 will require some form of education or training beyond high school and nearly one-third of all job openings will require a two- or four-year college degree with approximately 26,000 Maryland job openings each year through 2005 requiring a college degree. General managers and registered nurses are projected to represent the largest number of job openings. Other occupations projected to have a large number of vacancies are bankers, sales workers, accountants, physicians, computer programmers, food/lodging managers, teachers and college faculty, electronic data processors, and electrical engineers. Certificate and degree programs most frequently named as not producing adequate numbers of qualified graduates were the health professions and business management. The highest demand bachelor's degrees were in business, the health professions, engineering, and computer science with a similar demand for master's and doctoral degrees. Tables include demand by region and county. The survey form and list of employers who responded are appended. (JLS)

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ED 404 974

MARYLAND HIGHER EDUCATION COMMISSION

A STUDY OF THE WORKFORCE NEEDS OF MARYLAND EMPLOYERS

SEPTEMBER, 1996

HE 030 017

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EXECUTIVE SUMMARY

Higher education can play a key role in making Maryland more competitive in recruiting and retaining high performance businesses and organizations. One way is to identify the unmet needs of employers--the academic programs for which they have strong demand but have not been able to attract a sufficient number of qualified applicants to fill job vacancies.

The Maryland Higher Education Commission surveyed more than 2,500 employers in all regions of the state to learn what programs at various degree levels have not been readily available to firms and organizations. The findings of this survey were examined along with labor market data about the projected number of job openings in specific occupational areas, especially those requiring a college education. Policy questions arising from the study also are included.

The highlights of the study:

Labor Market Projections

- Nearly six of every 10 job openings in Maryland through the year 2005 will require some form of education or training beyond high school. Nearly one-third of all job openings will require a two- or four-year college degree. Put another way, there will be approximately 26,000 job openings each year in Maryland through 2005 requiring persons with a college degree.

- In every county and region of the state, general managers and registered nurses headed the list of professional and technical occupations which are expected to have the largest number of job openings by 2005. Other occupations which are projected to experience a large number of job vacancies are bankers, sales workers, teachers, accountants, physicians, computer programmers, food/lodging managers, college faculty, electronic data processors, and electrical engineers.

Unmet Needs of Maryland Employers

- The community college certificate and degree programs most often named by employers as not producing adequate numbers of qualified graduates were the health professions (notably nursing, which was among the most frequently cited two-year programs in every county and region) and business management (particularly business administration, accounting and hospitality services). Business fields were mentioned repeatedly by employers in Baltimore City and in the large suburban counties surrounding Baltimore and Washington, D.C.

- The bachelor's degree programs listed by the largest number of employers were in business (especially business administration, accounting, hospitality services, and

financial management), the health professions (notably rehabilitation/therapeutic services, and nursing), engineering (chiefly electrical engineering), and computer sciences. Demand for more qualified applicants in business administration was expressed by many employers in the Baltimore and Washington, D.C. areas. Hospitality services management was mentioned numerous times by firms in Baltimore City and County, the Lower Shore, Mid Maryland, and the Washington, D.C. suburbs. Rehabilitation services was cited by employers in all regions of the state. Graduates of baccalaureate programs in electrical engineering and computer science were among the most needed employees in Anne Arundel County, Baltimore County, Southern Maryland, Mid Maryland, and the Washington, D.C. suburbs.

- The most commonly mentioned master's degree programs by employers were engineering (particularly electrical engineering), business management, the health professions (mainly rehabilitation services), computer sciences, and social work. Electrical engineering and computer science were needed strongly in the Washington, D.C. area. Many Baltimore County firms expressed interest in masters-level graduates from several types of engineering programs--general, electrical, civil and mechanical.

- Doctoral programs for which employers reported having a difficult time attracting qualified job applicants were the health professions and high technology fields (especially engineering and the sciences).

- There generally was little difference between the unmet needs of large employers (those with 500 or more workers) and smaller firms.

INTRODUCTION

One of the major goals of state government during the administration of Gov. Parris N. Glendening has been to make Maryland more "business friendly", thereby enhancing efforts to create new jobs and to attract and retain employers.

Maryland higher education is equipped to play a central role in achieving this goal. Its institutions can contribute in several ways to making the state more competitive in recruiting and keeping high performance businesses and organizations. They can:

- Identify the unmet needs of employers--the academic fields for which they have strong demand but are not getting a sufficient number of applicants to fill job openings.
- Provide business with information concerning the availability of higher education resources in the state.
- Meet the continuing education and job training needs of workers in the state, including the development of customized programs for employers.
- Improve the preparation of elementary and secondary school teachers and strengthen partnerships between K-12 education, postsecondary education, and the business community.
- Improve the general analytical and communication skills of college graduates.
- Assist marginal workers and the unemployed in becoming competitive in the labor market.
- Use the research and expertise of Maryland campuses to assist businesses and industry to support new commercial development.
- Help Maryland's businesses to function more effectively in the global economy.

This report will address the first of these issues. Maryland's colleges and universities offer a wide assortment of academic programs to provide the skills that employers are seeking in job candidates. However, anecdotal information from employers has suggested that some companies have been frustrated in locating employees with the education needed to fill job openings. Hence, the Maryland Higher Education Commission has conducted a survey of employers in the various regions of the state to identify those academic fields in which businesses and organizations are not getting an

adequate number of qualified applicants. This study is an appropriate undertaking for the Commission, which has responsibility for statewide higher education planning as well as for the approval of new academic programs at the state's public colleges and universities.

The results of the survey will be examined along with data from the Maryland Office of Labor Market Analysis and Information about the projected number of new jobs in specific occupational areas, particularly those requiring education beyond high school, in the major counties and regions of Maryland or "service delivery areas":

Anne Arundel County
Baltimore City
Baltimore County
Frederick County
Lower Shore (Somerset, Wicomico and Worcester Counties)
Mid-Maryland (Carroll and Howard Counties)
Montgomery County
Prince George's County
Southern Maryland (Calvert, Charles and St. Mary's Counties)
Susquehanna Region (Cecil and Harford Counties)
Upper Shore (Caroline, Dorchester, Kent, Queen Anne's and Talbot Counties)
Western Maryland (Allegany, Garrett and Washington Counties)

The information from this study is intended to be used to assess higher education needs in the various parts of Maryland as an element of the development of a new state plan for postsecondary education.

SURVEY METHODOLOGY

The questionnaire developed by the Commission staff asked employers to indicate the specific academic fields for which 1) they have a strong current need for employees with a college education and 2) they have not been able to attract a sufficient number of qualified applicants with an academic background in these areas. Employers were asked to identify, for each academic program, the appropriate level or levels of study for which employees are needed: a community college degree or certificate, bachelor's degree, master's degree, and/or doctoral or professional degree. A copy of the questionnaire appears in Appendix A.

The Commission contracted with the Maryland Office of Labor Market Analysis and Information to administer the questionnaire. This office has one of the most extensive listings of private firms and organizations in Maryland which it uses for numerous surveys of its own. The questionnaire was mailed in October 1995 to all 2,503 Maryland employers with 100 or more employees on this data base, with

accompanying letters from the Secretary of Higher Education and the Director of the Office of Labor Market Analysis and Information. Follow-up mailings to non respondents were conducted the following December and February. Employers were urged to return the questionnaire even if they had not experienced difficulty in recruiting ample numbers of college-educated employees. Replies were received from 917 companies for a participation rate of 37 percent. Of these, 500 reported that they had trouble attracting sufficient workers in at least one academic field. A listing by jurisdiction of the firms and organizations which answered the survey is in Appendix B.

The survey respondents were roughly similar in terms of location to all of the employers to whom the questionnaire was mailed. The respondent group contained a higher percentage of employers from Baltimore County and a lower proportion from Baltimore City and Montgomery County than would have been expected if all firms and organizations returned the questionnaire.

County/Region	% of Survey Respondents	% of All Employers
Anne Arundel	5.9%	7.7%
Baltimore City	12.7%	17.3%
Baltimore County	21.8%	17.7%
Frederick County	3.6%	2.9%
Lower Shore	2.8%	2.5%
Mid Maryland	6.6%	6.9%
Montgomery County	16.3%	19.6%
Prince George's County	15.0%	13.9%
Southern Maryland	3.4%	2.6%
Susquehanna Region	3.2%	2.6%
Upper Shore	2.8%	1.6%
Western Maryland	5.9%	4.7%
Total	100.0%	100.0%

THE LABOR MARKET PICTURE IN MARYLAND IN 2005

By the year 2005, Maryland's workforce will number more than 2.6 million--up 22 percent from 1992 (Table 1). During this period, there will be more than 1 million job openings in the state. About half of these (475,000) will be new jobs created as a result of growth, while the remainder will result from separations due to such circumstances as retirements, promotions, and transfers.

Developments in the labor market, such as increased competition for jobs, corporate consolidations and downsizings, the advent of the global marketplace, emergence of a

service and information based economy, and technological advancements, have placed a premium on workers with higher educational attainment and advanced skill levels. Nearly one-third of all job openings in Maryland (32 percent) by 2005 will require a community college degree, a bachelor's degree or higher. These positions will come in managerial, administrative, professional and technical employment, notably in business, engineering, education, health and computer science. An additional 27 percent of job openings will require a person with some education or training beyond high school, whether in college, a private career school or at the workplace. Most of these will come in service occupations or in precision production, craft and repair occupations.

Hence, nearly six of every 10 job openings in Maryland through 2005 will require some form of education or training beyond high school. Put another way, there will be approximately 26,000 job openings each year in Maryland requiring persons with a college degree and about 22,000 additional job openings annually in which applicants will need to have some education or training beyond high school.

Professional and Technical Occupations with Largest Projected Openings

Statewide, general managers and registered nurses topped the list of professional and technical occupations which are expected to have the largest number of projected job openings in Maryland through 2005 (Table 2). These occupations were projected to have among the largest projected openings in every service delivery area in the state.

Tables 3 through 14 show the professional/technical occupations with the largest projected employment and total job openings in each service delivery area. Other occupations which ranked among the top 10 in terms of predicted total job openings in at least half of the service delivery areas or in half of those with the largest population--Montgomery County, Prince George's County, and Baltimore City and County:

Bankers (All except Montgomery)

Sales workers (All except Prince George's and Southern Maryland)

Elementary and Secondary School Teachers (All except Baltimore City and Montgomery)

Accountants (Anne Arundel, Baltimore City and County, Upper and Lower Shore, Montgomery, Prince George's, Susquehanna)

Physicians (Baltimore City and County, Upper and Lower Shore, Mid Maryland, Southern Maryland, Susquehanna, Western Maryland)

Computer Programmers (Anne Arundel, Baltimore County, Mid Maryland, Montgomery, Prince George's, Southern Maryland)

Food/Lodging Managers (Frederick, Upper and Lower Shore, Southern Maryland, Susquehanna, Western Maryland)

College Faculty (Baltimore City, Frederick, Lower Shore, Prince George's, Western Maryland)

Electronic Data Processors (Baltimore City and County, Montgomery, Prince George's)

Electrical Engineers (Mid Maryland, Montgomery, Prince George's)

PROGRAMS FOR WHICH EMPLOYERS CANNOT FIND SUFFICIENT APPLICANTS

Tables 15 to 18 display the particular academic fields cited by employers statewide as being in strong current demand, but for which they have been unable to attract sufficient numbers of qualified applicants with a background in these areas. Table 19 presents this information for large firms and organizations (those with 500 or more employees). Tables 20 through 31 show the specific academic programs most often mentioned by employers in each of Maryland's service delivery areas. The disciplines were organized on the basis of the U.S. Department of Education's Classification of Instructional Programs, the most comprehensive taxonomy available. There are separate breakdowns for the various levels of degrees: community college, bachelor's, master's, and doctoral/first professional.

Community College Certificate and Degree Programs

The community college certificate and degree programs most frequently named by employers as not producing adequate numbers of qualified graduates were the health professions (notably nursing) and business management (particularly business administration and management, accounting, general business, and hospitality services management). These same fields were predominate among the largest employers, except that health and medical assistants were mentioned as often as nursing.

Nursing was among the most frequently cited community college programs in every Maryland county or region. Business administration was mentioned often by employers in Anne Arundel, Baltimore County, Frederick, Mid Maryland, Montgomery, Prince George's and Susquehanna. General business was named many times by firms and organizations in Anne Arundel, Baltimore City, and Prince

George's County. Accounting was brought up repeatedly by employers in Baltimore County and City, Frederick, Montgomery, Prince George's, and Susquehanna.

Bachelor's Degree Programs

The bachelor's degree programs listed by the largest number of employers were in business management (especially business administration, accounting, hospitality services management, general business, and financial management), the health professions (notably rehabilitation/therapeutic services and nursing), engineering (chiefly electrical or electronic engineering and general engineering), and computer and information sciences. These same fields were also the most frequently selected by the largest firms and organizations.

Bachelor's programs in business administration were mentioned most often by employers in Anne Arundel, Baltimore County, Frederick, Mid Maryland, Prince George's County, Southern Maryland, Susquehanna and Western Maryland. Accounting was named regularly by companies in Baltimore County and City, Frederick, Montgomery, Prince George's, and Susquehanna. Hospitality services management was cited many times by employers in Baltimore County and City, Lower Shore, Mid Maryland, Montgomery, and Prince George's.

Rehabilitation and therapeutic services, which include such programs as physical therapy and occupational therapy, were listed repeatedly by employers in Baltimore County and City, Lower Shore, Montgomery County, Southern Maryland, and Western Maryland. Nursing was mentioned by multiple employers in all service delivery areas except Anne Arundel and Frederick Counties.

Baccalaureate programs in electrical/electronic engineering were among the most commonly cited by firms and organizations in Anne Arundel, Baltimore County, Lower Shore, Mid Maryland, Montgomery County, Prince George's County, and Southern Maryland. Computer and information sciences was one of the most frequently selected academic fields by employers in Anne Arundel, Baltimore County, Frederick, Mid Maryland, Montgomery, Prince George's, and Southern Maryland.

Master's Degree Programs

The programs at the master's degree level that were mentioned by the largest number of employers as being in strong demand but not producing enough qualified applicants were engineering (notably electrical/electronic engineering), business management , the health professions (especially rehabilitation/therapeutic services), computer and information sciences, and social work. The first four of these fields were among the most commonly cited by the largest firms and organizations in the survey.

Electrical/electronic engineering was one of the master's programs mentioned most often by employers in Anne Arundel, Baltimore County (where general, civil and

mechanical engineering also were named), Mid Maryland, Montgomery County, and Prince George's County. Academic fields in business management were among the most cited by firms in Anne Arundel, Baltimore City, Frederick, Prince George's, Southern Maryland, and Susquehanna. Computer and information sciences were identified most frequently by employers in Anne Arundel, Montgomery, and Prince George's. Master's programs in rehabilitation/therapeutic services were named by multiple employers in Anne Arundel, Baltimore County and City, Lower Shore, Montgomery, and Western Maryland. Social work was one of the programs raised the most by employers in Baltimore City, Montgomery County, and Western Maryland.

Doctoral and First Professional Programs

The academic programs for which Maryland employers had greatest need for, but were not getting, qualified applicants with a doctorate were the health professions and high technology fields (chiefly engineering and the physical and biological sciences). The physical sciences were cited most by the largest firms and organizations in the survey.

POLICY QUESTIONS ARISING FROM THE STUDY

Because of the close relationship between economic development and higher education, the needs of employers and the projected openings in certain occupations play an important role in determining the types of new academic programs created and where they are located. The cyclical nature of student interest, changes in the demand for particular kinds of jobs by employers, shifts in the economy in the various regions of the state, and the cost to taxpayers of creating new college-level programs make it imperative that the addition of new educational offerings be taken only after careful consideration. The inability of employers to attract sufficient numbers of qualified applicants in specific fields may reflect as much on the nature of the supply of graduates available as it does on the presence or quality of programs in these disciplines.

These are policy questions and issues emerging from the workforce needs study:

Are Maryland colleges and universities producing sufficient graduates in academic fields strongly in demand among employers in the state?

Statewide, large numbers of Maryland employers expressed frustration at their inability to attract an adequate supply of applicants for jobs requiring some type of college education in the health professions, business, engineering and computer science. This raises the question of whether enough Maryland students are majoring in these fields and earning the requisite degrees. In the 1994-1995 academic year, Maryland community colleges awarded 1,899 associate degrees and certificates in the health services technologies and 1,655 in business and commerce technologies.

Undergraduates at public and independent four-year colleges and universities in the state earned 2,957 baccalaureates in business, 1,358 in health professions, 905 in engineering, and 742 in computer and information systems. There were 2,171 master's degrees in business, 800 in health, 682 in engineering, and 478 in computer science.

Are these figures sufficient to meet the needs of today's employers and will there be an adequate supply in the years ahead? Labor market projections in the state show that there will be nearly a quarter of a million job openings by 2005 in the occupations corresponding to these fields of study.

Are Maryland's college-bound high school graduates informed about the nature of the state's current and projected work force?

Many college freshmen do not select a major right away, much less develop long-term occupational goals. As a result, information about present and future job market conditions is both of limited interest to many students and is not often provided by counselors and academic advisors. Nevertheless, students are unwise to ignore trends in the labor force. Follow-up surveys of community college graduates and bachelor's degree recipients conducted by the Maryland Higher Education Commission have found consistently that graduates who majored in high demand fields like engineering, computer science, business and health tend to have lower unemployment rates, are more likely to find a job directly related to their academic discipline, are more apt to earn a higher annual salary, and express greater happiness in their selection of a field of study than have other students. Hence, while students are best advised to tailor their academic and vocational choices to fields and jobs which coincide with their interests and talents, they (and their parents and counselors) need to keep an eye on present and emerging trends in the labor market.

Are additional or improved degree programs in hospitality management services needed in Maryland?

Hospitality services management was among the most frequently cited business fields for which Maryland employers found it difficult to recruit ample employees with either a community college or bachelor's degree. The need for baccalaureate recipients in this major was mentioned particularly by firms in Baltimore County and City, Montgomery County, Prince George's County, the Eastern Shore counties, and Mid Maryland (Howard and Carroll Counties). These areas make up a large majority of the state's population. Further, food and lodging manager is one of the professional occupations with the largest projected number of openings by 2005 in Maryland, especially in Frederick County, the Eastern Shore, Southern and Western Maryland, and the Susquehanna region (Cecil and Harford Counties).

Maryland currently offers two bachelor's degree programs in hospitality management at University of Maryland Eastern Shore and at Morgan State University. The UMES

program produced 27 graduates in the 1994-1995 academic year; the Morgan program is new. Further, only five public community colleges (Allegany, Anne Arundel, Harford, Montgomery and Wor Wic) and Baltimore International Culinary College offer certificate and/or associate degree programs in this area. In the 1994-1995 academic year, these community colleges awarded one certificate and 48 associate degrees in this field.

TABLES

Table 1
Projected Employment in 2005 in Maryland by Occupational Category

Occupational Category	Projected 2005 Employment	% Change from 1992	Total Openings (Growth and Separations)	
			N	%
Managerial and Administrative	223,471	29.0%	85,553	8.0%
Other Business Professions	95,097	27.0%	34,710	3.2%
Engineers and Architects	84,801	29.0%	34,658	3.2%
Natural Scientists	25,980	22.0%	12,831	1.2%
Computer and Math Occupations	55,090	54.0%	25,922	2.4%
Social Scientists/Social Service Occupations	27,014	29.0%	9,087	0.8%
Law-Related Occupations	18,715	29.0%	7,345	0.7%
Educators	119,215	23.0%	44,356	4.1%
Health Practitioners	140,785	35.0%	59,722	5.6%
Writers, Artists, Entertainers and Athletes	33,770	35.0%	14,742	1.4%
Miscellaneous Professions	26,865	26.0%	9,022	0.8%
Marketing and Sales Occupations	328,169	24.0%	156,676	14.6%
Administrative Support and Clerical	453,988	11.0%	147,459	13.7%
Service Occupations	447,252	27.0%	220,623	20.5%
Agriculture, Forestry and Fishing Occupations	36,260	37.0%	15,639	1.5%
Precision Production, Craft and Repair	264,005	19.0%	104,351	9.7%
Operators and Laborers	269,320	10.0%	91,611	8.5%
TOTAL	**2,649,797**	**22.0%**	**1,074,307**	**100.0%**

Source: Maryland Office of Labor Market Analysis and Information

Table 2
Professional/Technical Occupations with the Largest Projected Employment and Total Openings by 2005

All Maryland

Occupation	Projected 2005 Employment	% Change from 1992	Total Openings (Growth and Separations)
General Managers	72,709	18%	23,504
Registered Nurses	49,311	41%	21,060
Accountants	34,730	27%	12,766
Sales Service Workers	25,971	35%	11,908
College Faculty	20,459	27%	11,024
Bankers	29,633	11%	10,738
Computer Programmers	21,050	46%	10,725
Engineering Technicians	28,655	25%	9,633
Physicians	19,811	22%	8,580
Teachers, Secondary	21,637	19%	8,554
Electronic Data Processors	26,051	12%	8,177
Electrical Engineers	17,735	33%	8,021
Teachers, Elementary	21,451	19%	7,917
Financial Managers	18,536	25%	6,643
Artists/Commercial Art	11,450	54%	5,954
Food/Lodging Managers	12,812	40%	5,499
Lawyers	11,877	29%	5,018
Therapists	9,611	47%	4,940
Marketing Managers	9,002	49%	4,563
Licensed Practical Nurses	11,212	32%	4,550

Source: Maryland Office of Labor Market Analysis and Information

Table 3
Professional/Technical Occupations with the Largest Projected Employment and Total Openings by 2005

Anne Arundel County

Occupation	Projected 2005 Employment	% Change from 1992	Total Openings (Growth and Separations)
General Managers	5,489	18%	1,768
Electrical Engineers	2,878	32%	1,287
Registered Nurses	2,879	40%	1,222
Engineering Technicians	2,652	24%	897
Teachers, Secondary	1,746	19%	689
Computer Programmers	1,322	43%	663
Teachers, Elementary	1,729	19%	637
Bankers	1,738	12%	598
Sales Occupations	1,235	36%	598
Accountants	1,454	22%	546

Source: Maryland Office of Labor Market Analysis and Information

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Table 4
Professional/Technical Occupations with the Largest Projected Employment and Total Openings by 2005

Baltimore City

Occupation	Projected 2005 Employment	% Change from 1992	Total Openings (Growth and Separations)
Registered Nurses	17,692	41%	7,566
College Faculty	8,049	27%	4,342
General Managers	12,911	17%	4,095
Sales Service Workers	7,122	28%	3,107
Bankers	7,544	9%	2,821
Physicians	4,163	25%	1,846
Lawyers	4,094	32%	1,781
Accountants	4,382	31%	1,690
Electronic Data Processors	5,213	11%	1,625
Correction Officers	3,836	43%	1,573

Source: Maryland Office of Labor Market Analysis and Information

Table 5
Professional/Technical Occupations with the Largest Projected Employment and Total Openings by 2005

Baltimore County

Occupation	Projected 2005 Employment	% Change from 1992	Total Openings (Growth and Separations)
General Managers	11,244	17%	3,575
Registered Nurses	7,037	41%	3,029
Accountants	5,328	29%	2,002
Sales Service Workers	3,736	39%	1,768
Bankers	4,434	13%	1,599
Teachers, Secondary	3,278	19%	1,300
Computer Programmers	2,464	49%	1,274
Electronic Data Processors	3,610	16%	1,196
Teachers, Elementary	3,244	19%	1,196
Physicians	2,714	23%	1,183

Source: Maryland Office of Labor Market Analysis and Information

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Table 6
Professional/Technical Occupations with the Largest Projected Employment and Total Openings by 2005

Frederick County

Occupation	Projected 2005 Employment	% Change from 1992	Total Openings (Growth and Separations)
General Managers	2,059	16%	650
Bankers	1,281	8%	507
Registered Nurses	1,026	43%	455
Sales Service Workers	774	33%	364
Teachers, Secondary	858	19%	338
Teachers, Elementary	847	19%	312
College Faculty	533	26%	286
Financial Managers	620	28%	221
Engineering Technicians	598	22%	208
Food/Lodging Managers	471	41%	208

Source: Maryland Office of Labor Market Analysis and Information

Table 7
Professional/Technical Occupations with the Largest Projected Employment and Total Openings by 2005

Lower Shore

Occupation	Projected 2005 Employment	% Change from 1992	Total Openings (Growth and Separations)
General Managers	1,960	15%	611
Registered Nurses	1,440	41%	611
Food/Lodging Managers	874	39%	377
College Faculty	618	26%	338
Sales Service Workers	637	37%	273
Bankers	734	11%	260
Teachers, Secondary	588	19%	234
Physicians	470	27%	221
Teachers, Elementary	580	19%	208
Accountants	442	29%	169

Note: Lower Shore includes Somerset, Wicomico and Worcester Counties.

Source: Maryland Office of Labor Market Analysis and Information

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Table 8
Professional/Technical Occupations with the Largest Projected Employment and Total Openings by 2005

Mid Maryland

Occupation	Projected 2005 Employment	% Change from 1992	Total Openings (Growth and Separations)
General Mangers	4,677	17%	1,495
Registered Nurses	2,549	43%	1,118
Engineering Technicians	2,010	25%	702
Teachers, Secondary	1,541	19%	611
Sales Service Workers	1,299	37%	611
Computer Programmers	1,205	46%	611
Bankers	1,711	10%	572
Teachers, Elementary	1,533	19%	572
Electrical Engineers	1,159	32%	520
Physicians	1,148	25%	520

Note: Mid Maryland includes Carroll and Howard Counties.

Source: Maryland Office of Labor Market Analysis and Information

Table 9
Professional/Technical Occupations with the Largest Projected Employment and Total Openings by 2005

Montgomery County

Occupation	Projected 2005 Employment	% Change from 1992	Total Openings (Growth and Separations)
General Managers	14,449	23%	5,057
Computer Programmers	7,122	46%	3,640
Engineering Technicians	8,635	31%	3,172
Registered Nurses	6,910	40%	2,925
Sales Service Workers	6,009	37%	2,756
Accountants	6,138	32%	2,366
Electrical Engineers	4,975	37%	2,327
Electronic Data Processors	6,365	14%	2,002
Artists/Commercial Art	3,716	58%	1,976
Physicians	4,660	20%	1,963

Source: Maryland Office of Labor Market Analysis and Information

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Table 10
Professional/Technical Occupations with the Largest Projected Employment and Total Openings by 2005

Prince George's County

Occupation	Projected 2005 Employment	% Change from 1992	Total Openings (Growth and Separations)
General Managers	9,830	18%	3,211
College Faculty	5,226	26%	2,821
Registered Nurses	3,758	39%	1,586
Computer Programmers	3,243	39%	1,573
Bankers	4,141	11%	1,508
Electronic Data Processors	3,524	14%	1,157
Teachers, Secondary	2,894	19%	1,144
Teachers, Elementary	2,862	19%	1,066
Accountants	2,810	28%	1,053
Electrical Engineers	2,438	27%	1,027

Source: Maryland Office of Labor Market Analysis and Information

Table 11
Professional/Technical Occupations with the Largest Projected Employment and Total Openings by 2005

Southern Maryland

Occupation	Projected 2005 Employment	% Change from 1992	Total Openings (Growth and Separations)
General Managers	2,158	18%	702
Registered Nurses	1,199	38%	507
Teachers, Secondary	1,175	19%	455
Teachers, Elementary	1,159	19%	429
Artists/Commercial Art	591	62%	312
Engineering Technicians	991	19%	286
Computer Programmers	607	41%	286
Physicians	671	19%	273
Food/Lodging Managers	589	40%	260
Bankers	778	9%	247

Note: Southern Maryland includes Calvert, Charles and St. Mary's Counties.

Source: Maryland Office of Labor Market Analysis and Information

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Table 12
Professional/Technical Occupations with the Largest Projected Employment and Total Openings by 2005

Susquehanna Region

Occupation	Projected 2005 Employment	% Change from 1992	Total Openings (Growth and Separations)
General Managers	2,271	15%	702
Registered Nurses	1,455	38%	611
Teachers, Secondary	1,299	19%	520
Teachers, Elementary	1,283	19%	481
Physicians	821	19%	338
Accountants	897	18%	273
Bankers	753	11%	273
Physical Scientists	600	7%	273
Sales Service Workers	580	36%	247
Food/Lodging Managers	548	41%	234

Note: Susquehanna Region includes Cecil and Harford Counties.

Source: Maryland Office of Labor Market Analysis and Information

Table 13
Professional/Technical Occupations with the Largest Projected Employment and Total Openings by 2005

Upper Shore

Occupation	Projected 2005 Employment	% Change from 1992	Total Openings (Growth and Separations)
General Managers	1,643	14%	494
Registered Nurses	1,156	42%	494
Teachers, Secondary	651	19%	260
Teachers, Elementary	641	19%	234
Food/Lodging Managers	571	39%	234
Sales Service Workers	488	38%	208
Bankers	530	10%	195
Physicians	381	29%	182
Artists/Commercial Art	276	58%	156
Accountants	362	28%	130

Note: Upper Shore includes Caroline, Dorchester, Kent, Queen Anne's and Talbot Counties

Source: Maryland Office of Labor Market Analysis and Information

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Table 14
Professional/Technical Occupations with the Largest Projected Employment and Total Openings by 2005

Western Maryland

Occupation	Projected 2005 Employment	% Change from 1992	Total Openings (Growth and Separations)
Registered Nurses	2,787	42%	1,196
General Managers	2,935	14%	884
Bankers	1,243	11%	442
Teachers, Secondary	985	19%	390
Teachers, Elementary	975	19%	364
College Faculty	683	26%	364
Physicians	768	28%	351
Food/Lodging Managers	675	39%	299
Licensed Practical Nurses	700	33%	286
Sales Service Workers	614	37%	286

Note: Western Maryland includes Allegany, Garrett and Washington Counties

Source: Maryland Office of Labor Market Analysis and Information

Table 15

Community College Degree or Certificate Programs for Which Employers in Maryland Have a Strong Current Need But Can Not Attract Sufficient Qualified Applicants

# of Programs Cited	Academic Programs
142	HEALTH PROFESSIONS
90	Nursing
15	Rehabilitation Services
14	Health and Medical Assistants
6	Diagnostic and Treatment Services
6	Health Professions, General
4	Mental Health Services
3	Medical Laboratory Technologies
2	Medical Administrative Services
1	Communication Disorders Services
1	Community Health Services
141	BUSINESS MANAGEMENT
36	Business Administration and Management
30	Accounting
21	Business, General
21	Hospitality Services Management
15	Administrative and Secretarial Services
7	Human Resources Management
6	Financial Management
5	Business Information and Data Processing
33	COMPUTER AND INFORMATION SCIENCES
14	Computer & Information Sciences, General
8	Computer Programming
5	Computer Science
3	Data Processing
3	Information Sciences and Systems
27	MARKETING OPERATIONS
15	General Retailing and Wholesaling
5	Business & Personal Services Marketing
4	Marketing Operations, General
1	Apparel and Accessories Marketing
1	Insurance Marketing
1	Tourism and Travel Services Marketing
21	ENGINEERING TECHNOLOGIES
15	Electrical/Electronic Engineering Tech
2	Environmental Control Technologies
2	Industrial Production Technologies
2	Mechanical Engineering Technologies
16	VOCATIONAL HOME ECONOMICS
11	Institutional Food Workers
4	Child Care Workers
1	Home Furnishing Consultants

# of Programs Cited	Academic Programs
13	PRECISION PRODUCTION TRADES
5	Drafting
4	Precision Metal Workers
3	Printing Equipment Operators
1	Woodworkers
12	MECHANICS AND REPAIRERS
6	Vehicle Equipment Mechanics
3	Heating, Air Conditioning and Refrigeration
2	Industrial Equipment Maintenance
1	Mechanics and Repairers, Other
10	CONSTRUCTION TRADES
5	Construction and Building Managers
2	Plumbers and Pipefitters
2	Construction Trades, Other
1	Carpenters
9	MISCELLANEOUS SERVICES
8	Culinary Arts
1	Cosmetic Services
8	VISUAL AND PERFORMING ARTS
7	Design and Applied Arts
1	Fine Arts and Art Studies
5	AGRICULTURAL BUSINESS
5	Horticulture Services Operators
5	AGRICULTURAL SCIENCES
2	General Agricultural Sciences
2	Plant Sciences
1	Animal Sciences
5	EDUCATION
5	Early Childhood Education
5	GENERAL STUDIES
5	PROTECTIVE SERVICES
5	Criminal Justice and Corrections
2	TRANSPORTATION
1	Vehicle and Equipment Operators
1	Transportation, Other

Source: MHEC Survey of the Needs of Maryland Employers for College-Educated Employees

Table 16
Bachelors Degree Programs
for Which Employers in Maryland Have a Strong Current Need
But Can Not Attract Sufficient Qualified Applicants

# of Programs Cited	Academic Programs
241	BUSINESS MANAGEMENT
64	Business Administration and Management
55	Accounting
33	Hospitality Services Management
28	General Business
26	Financial Management
18	Business Information & Data Processing
12	Human Resources Management
2	Taxation
1	Administrative Services
1	Marketing Management and Research
1	Business Management, Other
155	HEALTH PROFESSIONS
64	Rehabilitation Services
57	Nursing
10	Communication Disorders Services
6	Health and Medical Assistants
6	Medical Laboratory Technologies
5	Medical Administrative Services
3	Diagnostic and Treatment Services
3	Mental Health Services
1	Public Health
123	ENGINEERING
39	Electrical/Electronics Engineering
27	General Engineering
18	Mechanical Engineering
8	Civil Engineering
7	Industrial Engineering
6	Computer Engineering
5	Chemical Engineering
5	Environmental Engineering
3	Aeronautical Engineering
2	Agricultural Engineering
1	Ceramic Sciences and Engineering
1	Marine Engineering
1	Systems Engineering
93	COMPUTER AND INFORMATION SCIENCES
34	Computer Science
27	Computer & Information Sciences, General
19	Computer Programming
11	Information Sciences and Systems
1	Data Processing
1	Computer Systems Analysis

# of Programs Cited	Academic Programs
55	MARKETING OPERATIONS
30	General Retailing and Wholesaling
14	Business and Personal Services Marketing
9	Marketing Operations, Other
2	Apparel and Accessories Marketing
16	VISUAL AND PERFORMING ARTS
10	Design and Applied Arts
2	Fine Arts and Art Studies
1	Visual and Performing Arts, General
1	Dramatic Arts
1	Music
1	Visual and Performing Arts, Other
15	PSYCHOLOGY
11	General Psychology
2	Developmental and Child Psychology
1	Counseling Psychology
1	Psychology, Other
14	BIOLOGICAL SCIENCES
6	General Biology
3	Biochemistry/Biophysics
2	Microbiology
1	Cell and Molecular Biology
1	Miscellaneous Biological Specializations
1	Biological Sciences, Other
13	ENGINEERING TECHNOLOGIES
7	Electrical/Electronics Engineering Tech
2	Industrial Production Technologies
2	Quality Control and Safety Technologies
1	Electromechanical Instrumentation Tech
1	Mechanical Engineering Technologies
30	EDUCATION
11	Special Education
10	General Teacher Education
5	Specific Teacher Education Programs
3	General Education
1	Student Counseling Services
21	PHYSICAL SCIENCES
7	Chemistry
7	Physics
3	Physical Sciences, General
2	Astronomy
1	Astrophysics
1	Miscellaneous Physical Sciences

Table 16 - Continued
Bachelors Degree Programs
for Which Employers in Maryland Have a Strong Current Need
But Can Not Attract Sufficient Qualified Applicants

# of Programs Cited	Academic Programs
19	PUBLIC ADMINISTRATION
19	Social Work
17	COMMUNICATIONS
10	General Communications
4	Public Relations
2	Journalism
1	Radio and Television Broadcasting
10	AGRICULTURAL SCIENCES
4	General Agricultural Sciences
3	Animal Sciences
3	Plant Sciences
10	HOME ECONOMICS
10	Food and Nutritional Studies
8	VOCATIONAL HOME ECONOMICS
7	Institutional Food Workers
1	Child Care Workers

# of Programs Cited	Academic Programs
8	MATHEMATICS
6	AGRICULTURAL BUSINESS
6	Horticulture Services Operations
6	LIBERAL ARTS AND SCIENCES
5	SOCIAL SCIENCES
3	Sociology
2	Economics
4	PROTECTIVE SERVICES
4	Criminal Justice and Corrections
3	ARCHITECTURE
2	LEGAL STUDIES

Source: MHEC Survey of the Needs of Maryland Employers for College-Educated Employees

Table 17
Masters Degree Programs
for Which Employers in Maryland Have a Strong Current Need
But Can Not Attract Sufficient Qualified Applicants

# of Programs Cited	Academic Programs
66	ENGINEERING
21	Electrical/Electronics Engineering
11	General Engineering
9	Mechanical Engineering
5	Computer Engineering
5	Environmental Engineering
4	Chemical Engineering
4	Civil Engineering
2	Aeronautical Engineering
1	Agricultural Engineering
1	Ceramic Sciences
1	Industrial Engineering
1	Systems Engineering
1	Engineering, Other
64	BUSINESS MANAGEMENT
17	Accounting
13	Business Administration and Management
11	Hospitality Services Management
10	Financial Management
6	Human Resources Management
3	General Business
2	Business Information & Data Processing
1	Taxation
1	Business Management, Other
61	HEALTH PROFESSIONS
33	Rehabilitation Services
13	Nursing
11	Communication Disorders Services
1	Health and Medical Assistants
1	Medical Laboratory Technologies
1	Mental Health Services
1	Public Health
42	COMPUTER AND INFORMATION SCIENCES
17	Computer Science
14	Computer & Information Science, General
6	Computer Programming
5	Information Sciences and Systems
20	PUBLIC ADMINISTRATION
20	Social Work

# of Programs Cited	Academic Programs
16	PHYSICAL SCIENCES
6	Physics
5	Chemistry
2	Astronomy
1	General Physical Sciences
1	Astrophysics
1	Miscellaneous Physical Sciences
10	PSYCHOLOGY
6	General Psychology
2	School Psychology
1	Community Psychology
1	Organizational Psychology
9	EDUCATION
5	Special Education
1	General Education
1	Bilingual Education
1	Student Counseling
1	Specific Teacher Education Programs
8	BIOLOGICAL SCIENCES
4	General Biology
2	Biochemistry/Biophysics
1	Cell and Molecular Biology
1	Miscellaneous Biological Specializations
4	HOME ECONOMICS
4	Foods and Nutrition Studies
4	MATHEMATICS
4	VISUAL AND PERFORMING ARTS
3	Design and Applied Arts
1	Fine Arts and Art Studies
3	ARCHITECTURE
2	AGRICULTURAL BUSINESS
2	Horticulture Services Operations
2	SOCIAL SCIENCES
1	Economics
1	International Relations

*Source: **MHEC Survey of the Needs of Maryland Employers for College-Educated Employees***

Table 18
Doctoral and First Professional Degree Programs for Which Employers in Maryland Have a Strong Current Need But Can Not Attract Sufficient Qualified Applicants

# of Programs Cited	Academic Programs
19	HEALTH PROFESSIONS
7	Nursing
4	Pharmacy
3	Communication Disorders Services
2	Medicine
2	Health Professions, Other
1	Public Health
17	ENGINEERING
6	Electrical/Electronics Engineering
3	General Engineering
3	Mechanical Engineering
2	Chemical Engineering
2	Computer Engineering
1	Aerospace Engineering
16	PHYSICAL SCIENCES
7	Chemistry
5	Physics
2	Astronomy
1	Astrophysics
1	Miscellaneous Physical Sciences

# of Programs Cited	Academic Programs
14	BIOLOGICAL SCIENCES
5	Miscellaneous Biological Specializations
3	Biochemistry/Biophysics
2	General Biology
2	Cell and Molecular Biology
1	Microbiology
1	Zoology
7	COMPUTER AND INFORMATION SCIENCES
4	Computer & Information Sciences, General
3	Computer Science
3	MATHEMATICS
2	PSYCHOLOGY
2	General Psychology

Source: MHEC Survey of the Needs of Maryland Employers for College-Educated Employees

Table 19
Academic Programs for Which Large Employers (500 or More Employees) in Maryland Have a Strong Current Need But Can Not Attract Sufficient Qualified Applicants

Community College Degree or Certificate Programs

# of Programs Cited	Academic Programs
32	HEALTH PROFESSIONS
11	Health and Medical Assistants
11	Nursing
4	Rehabilitation Services
2	Diagnostic and Treatment Services
2	Health Professions, Other
1	Medical Administrative Services
1	Medical Laboratory Technologies
29	BUSINESS MANAGEMENT
6	Business Administration and Management
5	General Business
5	Accounting
4	Administrative and Secretarial Services
4	Hospitality Services Management
2	Human Resources Management
2	Business Information & Data Processing
1	Financial Management
6	COMPUTER AND INFORMATION SCIENCES
4	Computer & Information Sciences, General
1	Computer Programming
1	Computer Science
5	VOCATIONAL HOME ECONOMICS
4	Institutional Food Workers
1	Child Care Workers

Bachelor's Degree Programs

# of Programs Cited	Academic Programs
60	BUSINESS MANAGEMENT
13	Business Administration and Management
12	Accounting
11	Financial Management
10	Hospitality Services Management
6	General Business
4	Human Resources Management
3	Business Information & Data Processing
1	Administrative and Secretarial Services
55	HEALTH PROFESSIONS
26	Rehabilitation Services
11	Nursing
6	Health and Medical Assistants
4	Communications Disorders Services
4	Medical Laboratory Technologies
2	Medical Administrative Services
2	Diagnostic and Treatment Services
33	ENGINEERING
12	Electrical/Electronics Engineering
7	General Engineering
4	Mechanical Engineering
3	Industrial Engineering
3	Computer Engineering
2	Chemical Engineering
1	Aerospace Engineering
1	Ceramic Sciences
26	COMPUTER AND INFORMATION SCIENCES
8	Computer Science
7	Computer & Information Sciences, General
7	Computer Programming
3	Information Sciences and Systems
1	Computer System Analysis
8	MARKETING OPERATIONS
6	General Retailing and Wholesaling
1	Business & Personal Services Marketing
1	Marketing Operations
7	PHYSICAL SCIENCES
3	Physics
2	Astronomy
1	Astrophysics
1	Miscellaneous Physical Sciences
6	EDUCATION
3	Special Education
1	General Education
1	General Teacher Education
1	Specific Teacher Education Programs

Table 19 - Continued
Academic Programs for which Large Employers (500 or More Employees) in Maryland Have a Strong Current Need But Can Not Attract Sufficient Qualified Applicants

Master's Degree Programs

# of Programs Cited	Academic Programs
33	HEALTH PROFESSIONS
19	Rehabilitation Services
8	Nursing
5	Communication Disorders Services
1	Health and Medical Assistants
26	ENGINEERING
9	Electrical/Electronics Engineering
4	General Engineering
3	Computer Engineering
3	Mechanical Engineering
2	Chemical Engineering
1	Aerospace Engineering
1	Ceramic Engineering
1	Environmental Engineering
1	Industrial Engineering
16	BUSINESS MANAGEMENT
6	Accounting
3	Financial Management
2	Business Administration and Management
2	Hospitality Services Management
2	Human Resources Management
1	General Business
13	COMPUTER AND INFORMATION SCIENCES
5	Computer & Information Sciences, General
5	Computer Science
2	Information Sciences and Systems
1	Computer Programming
8	PHYSICAL SCIENCES
3	Physics
2	Astronomy
1	Astrophysics
1	Chemistry
1	Miscellaneous Physical Sciences
7	PUBLIC ADMINISTRATION
7	Social Work

Doctoral and First Professional Degree Programs

# of Programs Cited	Academic Programs
9	PHYSICAL SCIENCES
3	Chemistry
2	Astronomy
2	Physics
1	Astrophysics
1	Miscellaneous Physical Sciences

Source: MHEC Survey of the Needs of Maryland Employers for College-Educated Employees

Table 20
Most Frequently Cited Academic Programs for Which Employers in Anne Arundel County Have A Strong Need But Can Not Attract Sufficient Qualified Applicants

Degree Level	Number Responding	Program
Community College Degree or Certificates		
	4	Hospitality Services Management
	3	Computer and Information Sciences, General
	3	Nursing
	2	Computer Programming
	2	Electrical/Electronic Engineering Technology
	2	General Business
	2	Business Administration and Management
	2	Business and Personal Services Marketing
Bachelor's Degree		
	6	Electrical/Electronic Engineering
	5	Computer Science
	3	Business and Personal Services Marketing
	3	Computer and Information Sciences, General
	3	General Business
	3	Business Administration and Management
Master's Degree		
	4	Electrical/Electronic Engineering
	4	Computer Science
	3	Rehabilitation Services
	2	Computer and Information Sciences, General
	2	Computer Programming
	2	Business Administration and Management

Source: MHEC Survey of the Needs of Maryland Employers for College-Educated Employees

Table 21
Most Frequently Cited Academic Programs for Which Employers in Baltimore County Have A Strong Need But Can Not Attract Sufficient Qualified Applicants

Degree Level	Number Responding	Program
Community College Degree or Certificates		
	15	Nursing
	9	Business Administration and Management
	5	Administrative and Secretarial Services
Bachelor's Degree		
	16	Business Administration and Management
	11	Rehabilitation Services
	10	General Engineering
	9	Accounting
	8	Electrical/Electronics Engineering
	8	Nursing
	6	Computer Programming
	6	Mechanical Engineering
	6	Hospitality Services Management
	5	Civil Engineering
	5	General Business
Master's Degree		
	5	Rehabilitation Services
	4	General Engineering
	3	Civil Engineering
	3	Electrical/Electronics Engineering
	3	Mechanical Engineering
Doctoral/First Professional Degree		
	3	Nursing
	2	Communication Disorders Services

Source: MHEC Survey of the Needs of Maryland Employers for College-Educated Employees

Table 22
Most Frequently Cited Academic Programs for Which Employers in Baltimore City Have A Strong Need But Can Not Attract Sufficient Qualified Applicants

Degree Level	Number Responding	Program
Community College Degree or Certificates		
	18	Nursing
	5	Accounting
	4	Health and Medical Assistants
	4	General Business
	4	Administrative and Secretarial Services
Bachelor's Degree		
	15	Rehabilitation Services
	13	Nursing
	12	Accounting
	7	Social Work
	6	Hospitality Services Management
	5	Financial Management
Master's Degree		
	6	Social Work
	6	Accounting
	5	Nursing
	3	Chemical Engineering
	3	Chemistry
	3	Communication Disorders Services
	3	Rehabilitation Services
	3	Business Administration and Management
Doctoral/First Professional Degree		
	4	Chemistry

Source: MHEC Survey of the Needs of Maryland Employers for College-Educated Employees

Table 23
Most Frequently Cited Academic Programs for Which Employers in Frederick County Have A Strong Need But Can Not Attract Sufficient Qualified Applicants

Degree Level	Number Responding	Program
Community College Degree or Certificates		
	6	Nursing
	4	Accounting
	3	Business Administration and Management
	2	Financial Management
Bachelor's Degree		
	3	General Retailing and Wholesaling
	3	Business Administration and Management
	3	Accounting
	3	Financial Management
	2	Computer & Information Sciences, General
	2	Specific Teacher Education Programs
	2	General Engineering
	2	Nursing
	2	General Business
	2	Human Resources Management
Master's Degree		
	2	Accounting
	2	Financial Management
Doctoral/First Professional Degree		
	2	Miscellaneous Biological Specializations

Source: MHEC Survey of the Needs of Maryland Employers for College-Educated Employees

Table 24
Most Frequently Cited Academic Programs for Which Employers in Lower Shore Have A Strong Need But Can Not Attract Sufficient Qualified Applicants

Degree Level	Number Responding	Program
Community College Degree or Certificates		
	4	Nursing
	3	Electrical/Electronic Engineering Technology
	3	Hospitality Services Management
Bachelor's Degree		
	3	Rehabilitation Services
	2	Electrical/Electronic Engineering
Master's Degree		
	2	Communication Disorders Services
	2	Rehabilitation Services

Note: Lower Shore includes Somerset, Wicomico and Worcester Counties.

Source: MHEC Survey of the Needs of Maryland Employers for College-Educated Employees

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Table 25
Most Frequently Cited Academic Programs for Which Employers in Mid Maryland Have A Strong Need But Can Not Attract Sufficient Qualified Applicants

Degree Level	Number Responding	Program
Community College Degree or Certificates		
	3	General Retailing and Wholesaling
	3	Nursing
	3	Hospitality Services Management
	2	Business Administration and Management
Bachelor's Degree		
	4	Computer Science
	4	Electrical/Electronic Engineering
	4	Business Administration and Management
	3	General Retailing and Wholesaling
	3	Mechanical Engineering
	3	Nursing
	3	Hospitality Services Management
Master's Degree		
	2	Electrical/Electronic Engineering
	2	Mechanical Engineering

Note: Mid Maryland includes Carroll and Howard Counties.

Source: MHEC Survey of the Needs of Maryland Employers for College-Educated Employees

Table 26
Most Frequently Cited Academic Programs for Which Employers in Montgomery County Have A Strong Need But Can Not Attract Sufficient Qualified Applicants

Degree Level	Number Responding	Program
Community College Degree or Certificates		
	9	Nursing
	5	Electrical/Electronic Engineering Technologies
	5	Rehabilitation Services
	5	Accounting
	4	Construction and Building Managers
	4	Health and Medical Assistants
	4	Business Administration and Management
Bachelor's Degree		
	15	Rehabilitation Services
	8	Computer and Information Sciences, General
	8	Electrical/Electronic Engineering
	8	Nursing
	7	Accounting
	6	Computer Science
	5	Hospitality Services Management
Master's Degree		
	11	Rehabilitation Services
	6	Electrical/Electronic Engineering
	4	Computer and Information Sciences, General
	4	Social Work
	4	Communication Disorders Services
Doctoral/First Professional Degree		
	2	Computer Science
	2	General Engineering
	2	Electrical/Electronic Engineering
	2	Biochemistry/Biophysics
	2	Nursing

Source: MHEC Survey of the Needs of Maryland Employers for College-Educated Employees

Table 27
Most Frequently Cited Academic Programs for Which Employers in Prince George's County Have A Strong Need But Can Not Attract Sufficient Qualified Applicants

Degree Level	Number Responding	Program
Community College Degree or Certificates		
	8	Business Administration and Management
	7	Nursing
	5	Computer and Information Sciences, General
	5	General Business
	5	Accounting
	4	General Retailing and Wholesaling
Bachelor's Degree		
	13	Business Administration and Management
	13	Accounting
	9	Nursing
	9	Computer Science
	8	General Business
	7	Computer and Information Sciences, General
	7	Hospitality Services Management
	6	General Retailing and Wholesaling
	5	Electrical/Electronic Engineering
	5	Physics
Master's Degree		
	5	Physics
	4	Computer and Information Sciences, General
	4	Computer Science
	4	Accounting
	3	Electrical/Electronic Engineering
	3	Business Administration and Management
	3	Hospitality Services Management
Doctoral/First Professional Degree		
	5	Physics
	3	Computer and Information Sciences, General
	3	Electrical/Electronic Engineering
	2	Mathematics
	2	Astronomy

Source: MHEC Survey of the Needs of Maryland Employers for College-Educated Employees

Table 28
Most Frequently Cited Academic Programs for Which Employers in **Southern Maryland Have A Strong Need** But Can Not Attract Sufficient Qualified Applicants

Degree Level	Number Responding	Program
Community College Degree or Certificates		
	3	Nursing
	2	Design and Applied Arts
	2	Human Resources Management
Bachelor's Degree		
	7	Rehabilitation Services
	4	Business Administration and Management
	3	Human Resources Management
	2	Computer Science
	2	Electrical/Electronic Engineering
	2	Design and Applied Arts
	2	Nursing
Master's Degree		
	2	Computer Science
	2	Business Administration and Management

Note: Southern Maryland includes Calvert, Charles and St. Mary's Counties.

Source: MHEC Survey of the Needs of Maryland Employers for College-Educated Employees

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Table 29
Most Frequently Cited Academic Programs for Which Employers in **Susquehanna Region Have A Strong Need** But Can Not Attract Sufficient Qualified Applicants

Degree Level	Number Responding	Program
Community College Degree or Certificates		
	5	Business Administration and Management
	4	Nursing
	2	Industrial Production Technologies
	2	Accounting
Bachelor's Degree		
	3	Accounting
	2	Child Psychology
	2	Nursing
	2	Business Administration and Management

Note: Susquehanna Region includes Cecil and Harford Counties.

Source: MHEC Survey of the Needs of Maryland Employers for College-Educated Employees

Table 30
Most Frequently Cited Academic Programs for Which Employers in Upper Shore Have A Strong Need But Can Not Attract Sufficient Qualified Applicants

Degree Level	Number Responding	Program
Community College Degree or Certificates	3	Nursing
Bachelor's Degree	2	Nursing

Note: Upper Shore includes Caroline, Dorchester, Kent, Queen Anne's and Talbot Counties.

Source: MHEC Survey of the Needs of Maryland Employers for College-Educated Employees

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Table 31
Most Frequently Cited Academic Programs for Which Employers in Western Maryland Have A Strong Need But Can Not Attract Sufficient Qualified Applicants

Degree Level	Number Responding	Program
Community College Degree or Certificates	14	Nursing
	4	Rehabilitation Services
	2	Printing Equipment Operators
Bachelor's Degree	7	Social Work
	6	Rehabilitation Services
	5	Nursing
	4	Foods and Nutrition Studies
	4	Business Administration and Management
	3	Financial Management
Master's Degree	4	Rehabilitation Services
	3	Social Work

Note: Western Maryland includes Allegany, Garrett and Washington Counties.

Source: MHEC Survey of the Needs of Maryland Employers for College-Educated Employees

APPENDICES

APPENDIX A

SURVEY OF THE NEEDS OF MARYLAND EMPLOYERS FOR COLLEGE-EDUCATED EMPLOYEES

Please indicate below the specific academic fields for which both of the following are true for your firm or organization.

- Your firm has a strong current need for employees with a college education in these fields.
- Your firm or organization has not been able to attract a sufficient number of qualified applicants with an academic background in these fields.

For each academic field you list, please also place an "x" in the column(s) representing the appropriate level(s) of study for which employees are needed. **Please base your responses on actual hiring experiences at your firm or organization.**

Academic Field	Level of Study			
	Community College Degree or Certificate	Bachelors Degree	Masters Degree	Doctorate or Professional Degree

What is the name and address of your organization:

_____

_____

_____

What is the size of your workforce in Maryland: _____

THANK YOU FOR PARTICIPATING IN OUR SURVEY. PLEASE DIRECT QUESTIONS ABOUT THE SURVEY TO DR. MICHAEL KELLER AT (410) 974-2971.

Appendix B
Employers Who Responded to the MHEC Survey
By Region

County/Region	Company
Anne Arundel	A & G MANAGEMENT CO. INC.
	ACE HARDWARE CORP.
	ALLEGIS - GLEN BURNIE
	ALTERNATIVE LIVING INC.
	ARINC, INC.
	ARTHUR SLADE REGIONAL CATHOLIC SCHOOLS
	ATLAS CONTAINER CORPORATION
	BIO GRO SYSTEMS, INC.
	BWI AIRPORT MARRIOTT HOTEL/HEI HOTELS
	CAPITAL-GAZETTE COMMUNICATIONS
	CATERAIR INTERNATIONAL, INC.
	CHI CHI'S RESTAURANT
	COMMERCE CORPORATION
	COMPUTER SCIENCES CORPORATION
	ELI WITT COMPANY
	FERGUSON TRENCHING CO.
	G & M FOOD CORP. T/A MCDONALD
	HECHINGER
	HISTORIC INNS OF ANNAPOLIS
	HOMESTEAD GARDENS
	HOUSEHOLD INTERNATIONAL
	HRB-SYSTEMS, INC.
	IIT RESEARCH INSTITUTE
	JC PENNEY
	JONES INTERCABLE INC
	KMART
	KOONS FORD OF ANNAPOLIS
	LAUER'S SUPER THRIFT
	LOEWES ANNAPOLIS HOTEL
	LORAL WESTERN DEVELOPMENT LABS
	LUCKY CONVENIENCE MARKETS, INC.
	M V M INC
	MACY'S NORTHEAST INC.
	MANPOWER TECHNICAL
	MANTECH ADVANCED TECHNOLOGY SYSTEMS
	MARYLAND PENNYSAVER GROUP
	METRO FOOD
	METROPOLITAN AMBULANCE SERVICE, INC.
	MIRACLE SERVICES, INC.
	MONTGOMERY WARD & CO INC.
	NORTH AMERICAN BEAUTY SERVICES, INC.
	NORTH ARUNDEL HOSPITAL
	PENN PARKING, INC.
	PROVIDENCE CENTER, INC.
	QUEBECOR PRINTING
	RELIABLE CONTRACTING CO., INC.
	RUSSELL-WILLIAM, LTD.
	SEARS
	SHERATON INTERNALTIONAL HOTEL
	TELECOMMUNICATION SYSTEMS
	TELESPECTRUM
	THE KEY SCHOOL
	TOWER FEDERAL CREDIT UNION
	VMH MARKETING LTD
	WESTINGHOUSE ELECTRONIC SYSTEMS
	WOODLAND JOB CORPS CENTER

County/Region	Company
Baltimore City	ASSOCIATED CATHOLIC CHARITIES
	A. J. BURTON GROUP, INC.
	ABACUS CORPORATION
	ABLE TEMPORARIES
	ACE UNIFORM SERVICES, INC.
	ACME PAD CORPORATION
	ADNET, INC.
	AGORA, INC.
	ALLEGIS HEALTH & REHAB CENTER-MOUNT CLARE
	ALLEGIS HEALTH AND REHAB. CENTER/OVERLEA
	AMERICAN RED CROSS
	ARCHDIOCESE OF BALTIMORE
	AT ONCE CLEANING
	BALTIMORE BRANCH FEDERAL RESERVE
	BALTIMORE LIFE INSURANCE COMPANY
	BAY AREA HEALTH CARE
	BEL GARDEN BI RITE
	BINDAGRAPHICS
	BOARD OF CHILD CARE
	BROADWAY SERVICES, INC.
	BRUNING PAINT CO.
	CALDOR REISTERSTOWN PLAZA
	CALVERT SCHOOL
	CARR-LOWREY GLASS COMPANY
	CARROLLTON BANK OF BALTIMORE
	CATHOLIC RELIEF SERVICES
	CHESAPEAKE PAPERBOARD COMPANY
	CHESAPEAKE PHYSICIANS P A
	CHESSIE COMPUTER SER INC
	COLLIERS PINKARD
	COMMERCIAL COURIER EXPRESS, INC.
	CONTINENTAL FOODS, A DIVISION OF RYKOFF-SEXTON
	DEATON SPECIALTY HOSPITAL & HOME, INC.
	DOMINO SUGAR CORPORATION
	DRUG CITY PHARMACY
	ENTERPRISE ELECTRIC CO.
	FAIRFAX SAVINGS BANK
	FIRST NATIONAL BANK OF MD
	FOOD A RAMA
	FRITO-LAY, INC.
	GENERAL MOTORS CORPORATION
	GILL-SIMPSON, INC.
	GOETZE'S CANDY CO., INC.
	GOOD SAMARITAN COMPREHENSIVE
	H & S BAKERY, INC.
	HARBOR COURT HOTEL
	HARBOR HOSPITAL CENTER
	HARBOUR INN CONVALESCENT CENTER
	HARTE-HAIRS DIRECT MARKETING
	HAUSSNER'S RESTAURANT
	HCIA, INC.
	HEALTHCARE MANAGEMENT CORP.
	HEDWIN CORPORATION
	INDEPENDENT DISTRIBUTION
	INNS OF EVERGREEN HEALTH GROUP, INC.
	IRVINGTON KNOLLS CARE CENTER
	JEWISH COMMUNITY CENTER OF GREATER BALTIMORE
	JEWISH FAMILY SERVICES

Appendix B - Continued

County/Region	Company
Baltimore City-Con't	JOHN D. LUCAS PRINTING
	JOHN HOPKINS BAYVIEW MEDICAL CENTER
	JOHNS HOPKINS BAYVIEW PHYSICIANS, P.A.
	JOHNS HOPKINS UNIVERSITY SCHOOL OF HYGIENE H.R.
	JUST TEMPS INC.
	KAYDON RING & SEAL, INC.
	KENNEDY KRIEGER INSTITUTE
	KESWICK
	LEGAL AID BUREAU, INC.
	LEGG MASON WOOD WALKER INC
	LENOX/KIRK STIEFF
	LOCKE INSULATORS INC.
	LORIEN NURSING AND REHAB.
	LOUGHLIN SECURITY AGENCY, INC.
	LOYOLA COLLEGE IN MD
	LOYOLA FEDERAL SAVINGS BANK
	MARTIN GILLIT & CO., INC.
	MARYLAND CLOTHING MFG., INC.
	MARYLAND GENERAL HOSPITAL
	MARYLAND SCIENCE CENTER
	MARYLAND ZOOLOGICAL SOCIETY
	MDV/NASH FINCH COMPANY
	MEALS ON WHEELS OF CENTRAL MD., INC
	MEDO MANUFACTACTURING
	MERCY MEDICAL CENTER
	METRO FOOD STORES
	MILES & STOCKBRIDGE
	MNC MORTGAGE
	NATIONAL AQUARIUM IN BALTO INC
	NORTHEAST FOODS
	OBER KALER GRIMES & SHRIVER
	OLES ENVELOPE CORP.
	P T OMALLEY
	PHARMAKINETICS LABORATORIES, INC.
	PHILLIPS HARBORPLACE INC.
	POLK AUDIO, INC.
	POTTS & CALLAHAN INC.
	PRUDENTIAL INS CO OF AMERICA
	REGIONAL MGT. INC.
	RENTOKIL, INC.
	RIVERVIEW NURSING CENTER INC.
	ROCKLAND INDUSTRIES INC.
	ROUSE AND PARK PLACE, INC.
	RTKL ASSOCIATES, INC.
	SCM CHEMICALS
	SERVICELINK
	SETON HILL MANOR, INC.
	SHERATON INNER HARBOR HOTEL
	SHOCK TRAUMA ASSOCIATES, P.A.
	SNELLING PERSONNEL SERVICES
	SPACE TELESCOPE SCIENCE INSTITUTE
	STOUFFER RENAISSANCE HARBORPLACE HOTEL
	THE CHIMES
	THE GOOD SAMARITAN HOSPITAL, INC.
	THE UNION MEMORIAL HOSPITAL
	THOMPSON STEEL CO INC.
	TOTAL HEALTH CARE INC.
	TOTAL OFFICE DIV. OF BALTO. STATIONERY CO.

County/Region	Company
Baltimore City-Con't	UNITEDWAY OF CENTRAL MD
	UNIVERSITY PHYSICIANS, INC.
	USF AND G CO.
	VENABLE, BAETJER AND HOWARD, LLP
	VICTOR GRAPHICS INC.
	VILLA ST. MICHAEL NURSING & REHAB CENTER
	VISTA CHEMICAL CO.
	VNA OF MD
	W. R. GRACE & CO.
	WAL-MART STORES INC.
	WB DONER & CO.
	WJZ - TV
	WOLPOFF & COMPANY, LLP
	YELLOW TRANSPORTATION
	YMCA OF CENTRAL MD
	YWCA OF THE GREATER BALTIMORE AREA, INC.
Baltimore	AAA MARYLAND
	AAI CORP.
	ADELL PLASTICS, INC.
	ADVANCE BUSINESS SYSTEMS
	ADVENTURE VACATIONS
	ALBERT S. SMYTH CO., INC.
	ALEX BROWN & SONS, INC.
	ALEXANDER & ALEXANDER CONSULTING GROUP
	ALLIANCE, INC.
	AMERICAN BOTTLERS
	AMERICAN STONE-MIX INC.
	ASSOCIATED ADMINISTRATORS, INC.
	ATLANTIC BEVERAGE CO, INC.
	B. J. WHOLESALE CLUB
	BARRETT BUSINESS SERVICES, INC.
	BARTON COTTON, INC.
	BECTON DICKENSON & COMPANY
	BELL ATLANTIC - MD
	BETHLEHEM STEEL CORPORATION BETHSHIP
	BEVERAGE CAPITAL
	BLAKEHURST
	BLUE CROSS & BLUE SHIELD OF MD
	BOB BELL CHEVY/NISSAN
	BRYN AWEL CORPORATION
	BSI STAFFING OF MD, INC.
	CALVERT HALL COLLEGE
	CARDINAL SHEHAN CENTER
	CARROLL INDEPENDENT FUEL CO.
	CENTURY ENGINEERING, INC.
	CES SECURITY, INC.
	CHARLES J. MILLER, INC.
	COSSENTINO CONTRACTING COMPANY, INC.
	CROWN AUTO PROCESSING, INC.
	DAP, INC.
	DIETRICH INDUSTRIES, INC.
	DRS. SCHULTZE SNIDER & ASSOC.
	DRYDEN OIL COMPANY
	E. I. KANE
	E. I. L. INSTRUMENTS INC.
	EASTERN COMMUNICATIONS
	EASTERN FACILITIES MAINTENANCE, INC.
	EASTERN SAVINGS BANK
	EDRICH LUMBER, INC.
	FIDELITY ENGINEERING CORP.
	FOREST HAVEN NURSING HOME
	FRIENDS LIFETIME CARE CENTER OF BALTO. INC.
	FRIENDS MEDICAL SCIENCE RESEARCH CENTER, INC.
	FUCHS AMERICAN SPICE, INC.

Appendix B - Continued

County/Region	Company
Baltimore-Con't	GARDINERS HOME FURNISHING CTR
	GENERAL GERMAN AGED
	GENESIS HEALTH VENTURES
	GIANT FOOD OF LANDOVER MD. STORE #53
	GOUCHER COLLEGE
	GREINER, INC. MID-ATLANT
	HARRY M STEVENS MAINT. SERVICES
	HECHINGER STORE
	HECHT'S
	HECHT'S - WHITE MARSH
	HENDERSEN-WEBB, INC.
	HOBELMANN PORT SERV INC
	HOME DEPOT
	HOME DEPOT USA INC
	HONEYWELL INC.
	HOUSE OF SEAGRAM
	IKEA
	INTERNATIONAL PAPER CO.
	ITO CORP OF BALTIMORE
	ITT HARTFORD
	IVY HALL INC.
	J. C. PENNEY CO. INC.
	JEWISH COMMUNITY CTR
	JOHN HOPKINS HOME CARE INC
	JOHNSON, MIRMIRAN & THOMPSON
	KENLEE PRECISION CORPORATION
	KMART
	LANGSTON HUNT VALLEY, INC.
	LEVER BROTHERS
	LOYOLA HIGH SCHOOL
	MAGIC YEARS CHILDCARE & LEARNING CENTERS INC.
	MARTIN'S CATERERS
	MARYLAND MEDICAL METPATH
	MASTER SECURITY
	MASURY COURT ASSOC., INC.
	MAY MEDICAL TRANSPORTS
	MBNA MARKETING SYSTEMS, INC.
	MCCORMICK & CO., INC.
	MCDONALDS
	MED BRIDGE - BALTIMORE
	MICROPROSE SOFTWARE
	MILLER, LONG & ARNOLD CO., INC.
	MOLDCRAFT PLASTICS INC
	MONARCH-AVALON CO.
	MONTGOMERY WARD
	MOUNT ST. JOESPH COLLEGE INC.
	MURRAY CORPORATION
	NATIONAL CTR ON INSTITUTIONS AND ALTERNATIVES
	NATIONAL CREDIT MGT. CORP.
	NI HEALTH CARE SERVICES
	NORDSTROM, INC.
	NORTH ARUNDEL NURSING
	NORTHEASTERN PLBG. & HTG. SUPPLY CO., INC.
	NOTRE DAME PREPARATORY SCHOOL
	OLSTEN KIMBERLY QUALITY CARE
	PEERCERS PLANTATION
	PIKESVILLE HILTON INN
	PIKESVILLE NURSING & CONVALESCENT CENTER
	PLAY CENTERS, INC.
	PORT CITY PRESS, INC.

County/Region	Company
Baltimore-Con't	PORT EAST TRANSFER INC.
	PRESBYTERIAN SENIOR SERVICES, INC.
	PRESTIGE MESSENGER SERV INC
	PROFESSIONAL NURSING SERVICES
	REDLAND GENSTAR
	REYNOLDS & REYNOLDS
	S. E. S. STAFFING SOLUTIONS
	SAKS & CO.
	SAM'S CLUB
	SCHLUMBERGER MALCO, INC.
	SEARS EASTPOINT MALL
	SEARS ROEBUCK & CO.
	SELECTIVE INSURANCE CO. OF AMERICA
	SENIOR CAMPUS LIVING
	SHEPPARD PRATT
	SHERATON OF BALTO. NO. HOTEL
	SHERWIN WILLIAMS
	SMITH KLINE BEECHAM CLINICAL LABS
	SNELLING PERSONNEL SERVICES
	ST. ELIZABETH NURSING AND REHAB. CENTER
	ST. JOSEPH MEDICAL CENTER
	ST. MARTIN'S HOME - LITTLE SISTERS OF THE POOR
	ST. PAUL'S SCHOOL
	SUPERIOR FOODS OF MD INC.
	SWEETHEART CUP COMPANY
	T. B. B.
	TECHNICAL AID CORP.
	TGI FRIDAYS
	THE MARYLAND SCHOOL FOR THE BLIND
	THE NELSON CO.
	THE OPEN DOOR OF BALTO INC.
	THE SUBURBAN CLUB
	THE WESLEY HOME, INC.
	TIMONIUM CHRYSLER PLYMOUTH DODGE JEEP EAGLE
	TOWSON YMCA
	TRAILBLAZER HEALTH ENTERPRISES,INC.
	UNITED BOOK PRESS, INC.
	VALLEY MOTORS INC.
	VIPS
	VULCAN-HART CO.
	WAL-MART STORES
	WARD MACHINERY COMPANY
	WHITNEY, BAILEY, COX & MAGNANI
	WILLIAMS CONSTRUCTION CO, INC.
	WINCHESTER CARTON, DIV. OF ROCK-TENN CO.
	WMAR-TV
	WOOD DINING FOOD SERVICES
	WOODBOURNE CTR.
	XEROX CORP.
	YMCA CENTRAL MD
	YOUTH SERVICES INTERNATIONAL OF BALTIMORE, INC.
Frederick County	ABL-BASIC RESEARCH PROGRAM
	CHEVY CHASE FED SAVINGS BANK FSB
	CHEVY CHASE SAVINGS & LOAN INC.
	EDI SERVICES
	ESTLAND ALUMINUM CO
	FCNB BANK
	FCP TECHNOLOGIES
	FREDERICK HEALTH CARE CENTER
	FREDERICK I-70 TRUCK CITY
	FREDERICK TRADING CO.
	GALAXY REGISTRATION, INC.
	H L HARTZ & SONS INC.
	HOME CALL,INC.

Appendix B - Continued

County/Region	Company
Frederick-Con't	INTERIM PERSONNEL INC.
	KTC INC.
	LEGGETT
	MANPOWER TEMP SERVICES
	MOORE BUSINESS FORMS INC.
	MOUNT SAINT MARY'S COLLEGE AND SEMINARY
	NORTHAMPTON MANOR, INC.
	ROTOREX COMPANY, INC.
	S & S ENTERPRISE - MCDONALD
	SERVICE MASTER
	SOLAREX
	STANDARD FEDERAL SAVINGS
	STATE FARM MUTUAL AUTOMOBILE INS. CO.
	TRANS-TECH, INC.
	WAY STATION INC.
	YMCA OF FREDERICK CO.
	YOUTH SERVICES INTERNATIONAL INC.
Lower Shore	
Somerset	MANOKIN MANOR NURSING HOME
	MCCREADY FOUNDATION
Wicomico	BRITTINHAM PLANT FARMS
	CALL CENTER SERVICES
	EATON CORPORATION, HEINEMAN PRODUCTS
	FIELD CONTAINER
	FILTRONIC COMTEK
	HEALTHSOUTH CHESAPEAKE REHABILITION HOSPITAL
	K & L MICROWAVE, INC.
	PARKSLEY APPAREL CO.
	PENINSULA REGIONAL MEDICAL CENTER
	PEPSI- COLA BOTTLING CO. OF SALISBURY MD
	THE DAILY TIMES
	WAL-MART STORE #01-1890
	WATERVIEW HEALTHCARE CENTER
	WHEATON PHARMATECH
Worcester	BERLIN NURSING HOME, INC.
	DUNES MANOR HOTEL
	LANKFORD SYSCO FOOD SERV INC.
	MOORE BUSINESS FORMS INC.
	PRINCESS ROYALE HOTEL
Mid Maryland	
Carroll	BAUGHER RESTAURANT INC.
	CARROLL COUNTY GENERAL HOSPITAL, INC.
	CARROLL LUTHERAN VILLAGE
	CHARLES A. KLEIN & SONS, INC.
	ENGLISH AMER. TLG. CO.
	EPISCOPAL MINISTRIES TO THE AGING, INC.
	GIANT FOOD
	INGERSOLL-DRESSER PUMP CO.
	JOS A. BANK CLOTHIERS
	KMART
	KNORR BRAKE CORPORATION
	LANDMARK COMM NEWSPAPER OF MD
	LEHIGH PORTLAND CEMENT COMPANY
	LONGVIEW NURSING HOME
	LOWE'S OF WESTMINSTER
	MONTGOMERY WARD
	O'MEARA CONSTRUCTION CO., INC.
	THE ARC OF CARROLL COUNTY, INC.
	UNION NATIONAL BANK

County/Region	Company
Mid Maryland-Con't	
Howard	ADVO-SYSTEM, INC.
	ALLIANT FOOD SERVICE, INC.
	ALLIEDSIGNAL CORP.
	APPLE FORD, INC.
	ARC OF HOWARD COUNTY
	BALTIMORE AIRCOIL CO.
	BGE HOME PRODUCTS & SERVICES, INC.
	BOWLES FLUIDICS CORP
	C & G DISTRIBUTORS, INC.
	COLUMBIA VANTAGE HOUSE CORP.
	DCA FOOD INDUSTRIES
	E & G CLASSICS
	ENERGETICS, INC.
	FORD MOTOR CREDIT
	FRANK A. SERIO & SONS, INC.
	GREEN SPRING HEALTH SERVICES, INC.
	HECHT'S
	HOWARDCOUNTYGENERAL HOSPITAL
	JP MONARCH INC.
	KMART CORPORATION
	LORIEN NURSING
	LUSKIN'S INC.
	NATIONAL SEMICONDUCTOR CORP.
	NIRO INC.
	OHMEDA
	RAPID SYSTEMS SOLUTIONS
	ROUSE HOTEL MGT, INC.
	SAIC, IDEAS GROUP
	SAVAL FOODS CORP.
	SCHOOL SPECIALTY (EDA)
	SEA KING V, T/A CRAB SHANY RESTAURANT
	SEARS
	SHEAD ENTERPRISES
	SHIMADZU SCIENTIFIC INSTRUMENTS INC.
	STANDARD MEDICAL IMAGING, INC.
	SUNNY'S SURPLUS, INC.
	T COM, L. P.
	THOMAS O'FARRELL YOUTH CENTER
	TOBYS THE DINNER THEATER
	TURF VALLEY HOTEL
	WASTE MGMT - BALTO
	WESTVACO CORPORATION
	WR GRACE & CO. CORP RESEARCH CTR.
Montgomery	ACECO
	ADVENTIST HEALTHCARE MID-ATLANTIC CENTER
	ADVENTIST PREFFERRED NURSING & HOME ASSIST.
	ADVENTIST SENIOR LIVING SERVICES, INC.
	AMERICAN BUILDING CLEANING INC.
	AMERICAN SPEECH-LANGUAGE/HEARING ASSOC.
	AMERICAN TYPE CULTURE COLLECTION
	AMERIDATA
	APWU HEALTH PLAN -HRD
	BAR-T KIDS CLUB
	BARWOOD
	BEN LEWIS INC.
	BETHESDA HAMBURGER HAMLET
	BETHESDA SUITES
	BOLAND TRANE SERVICES
	BORDERS BOOKS & MUSIC
	BOWL AMERICA INC.
	CAREY WINSTON COMPANY
	CENTERS FOR THE HANDICAPPED, INC.
	CHARLES E. SMITH JEWISH DAY SCHOOL
	CHARTER POTOMAC RIDGE

Appendix B - Continued

County/Region	Company
Montgomery-Con't	CHEVY CHASE BANK, FSB
	CHEVY CHASE CLUB, INC.
	CHI CHI'S RESTAURANT
	CLAIMS ADMINISTRATION CORP.
	COMMUNITY RADIOLOGY ASSOC., INC.
	COMSAT CORPORATION
	COMSAT RSI
	COMSIS
	CONGRESSIONAL COUNTRY CLUB INC.
	CTA INCORPORATED
	D & M GENERAL CONTRACTING, INC.
	DATA MEASUREMENT CORPORATION
	DATA-PROMPT INC.
	DENRO, INC.
	DEVELOPMENT ALTERNATIVES, INC.
	DIGICON CORPORATION
	DISCLOSURE, INC.
	DUNHILL TEMPS OF ROCKVILLE
	E U SERVICES
	EARLE PALMEER BROWN/ADVERTISING AGENCY
	ELITE PROTECTIVE SERVICES, INC.
	ELSEVIER INFORMATION SYSTEMS, INC.
	FDC REPORTS INC.
	FEDERAL REALTY INVESTMENT TRUST
	FEDERATION OF AMER SOCIETIES
	FRANCIS O DAY CO INC
	FRENCH INTERNATIONAL SCHOOL
	GEORGETOWN PREPARATORY SCHOOL
	GILLETTE RESEARCH/MEDICAL EVAL. LABS
	GLOBAL HEALTH CARE CENTER- BESTHESDA
	HEBREW ACADEMY OF GREATER WASHINGTON
	HECHINGER
	HECHT'S RETAIL DEPT. STORE
	HENRY M. JACKSON FOUNDATION
	HILL & SANDERS FORD INC.
	HOLIDAY INN GAITHERSBURG
	HOLIDAY INN OF BETHESDA
	HOLTON-ARMS SCHOOL INC.
	HOLY CROSS HOSPITAL
	HOME DEPOT
	HUUAN GENOME SCIENCES
	I-NET, INC.
	IMAGES HAIR DESIGN, INC.
	IVYMOUNT SCHOOL
	J. F. SHEA CO., INC.
	JEWISH SOCIAL SERVICE AGENCY
	JIM COLEMAN TOYOTA INC.
	KAISER PERMANENTE
	KEANE, INC.
	KENWOOD GOLF & COUNTRY CLUB, INC.
	LANDON SCHOOL
	LIFE TECHNOLOGIES, INC.
	LOIEDERMAN ASSOCIATES, INC.
	LORAL FEDERAL SYSTEMS
	MANDERS DECORATING
	MANHATTAN IMPORTED CARS INC.
	MANOR CARE BETHESDA REHAB AND NURSING CENTER
	MANOR CARE POTOMAC
	MANOR HEALTHCARE CORP.
	MAROTTAS ENTERPRISE INC.
	MCCPTA EDUCATIONAL PROGRAMS INC.
	MEDICAL & RAHAB SUPPORT SERVICES
	MELLON BANK OF MD

County/Region	Company
Montgomery-Con't	MONOCLE MGT LTD.
	MONTGOMERY CHILD CARE ASSOCIATION
	MONTGOMERY GENERAL HOSPITAL
	MONTGOMERY HOUSE
	MONTGOMERY WARD
	NASD, INC.
	NATIONAL LUTHERAN HOME
	NORDSTROM
	ORANGE SYSTEMS
	ORBITAL SCIENCES CORPORATION
	OURISMAN FORD CO., INC.
	PENRIL DATABILITY NETWORKS
	PERSONNEL DEPT. LEISURE WORLD OF MD CORP.
	PERTIMMUNE, INC.
	PG & E GENERATING CO. ETAL
	POTOMAC FOODS CO., INC.
	POTOMAC HOME HEALTH CARE
	POTOMAC HOME SUPPORT
	POTOMAC VALLEY NURSING CENTER
	PULTE HOME CORP.
	R. D. BEAN INC.
	R. O. W. SCIENCES INC.
	RACAL COMMUNICATIONS, INC.
	RED COATS INC.
	REZNICK FEDDER & SILVERMAN, CPA'S, PC
	RIDGEWELL'S, INC.
	RIO GRANDE CAFE
	ROCKMONT MOTOR CO.
	RUPERT LANDSCAPE CO.
	RUTH RIDER INC/SASSAFRAS
	SANDY SPRING NATL BANK OF MD
	SILVER SPRING YMCA
	SNIDERS INC.
	SOCIAL & HEALTH SERVICES LTD.
	SOCIAL & SCIENTIFIC SYSTEMS, INC.
	STAFFING ALTERNATIVES
	STONE RIDEG - SCHOOL OF THE SACRED HEART
	STORAGE TECHNOLOGY CORP.
	STRATEGIC TECHNOLOGY SERV CORP.
	SUBURBAN HOSPITAL
	SUTTON PLACE GOURMET
	TECHNICAL RESOURCES INTERNATIONAL, INC.
	THE AFFILATED SANTE' GROUP, ROCK CREEK FOUND
	THE ARC OF MONTGOMERY COUNTY
	THE ASPEN HILL CLUB
	THE CHEESCAKE FACTORY WHITE FLINT
	THE DATA ENTRY COMPANY
	THE TROIKA ORGANIZATION
	TLC
	TROPICAL PLANT RENTALS INC.
	U S PHARMACOPEIAL CONVENTION INC.
	VICTOR O SCHINNERER & CO INC.
	WASHINGTON ADVENTIST HOSPITAL
	WASHINGTON ADVENTIST NURSING
	WASHINGTONIAN CENTER MARRIOTT
	WATKINS - JOHNSON CO.
	WEINSCHEL
	WILCOXON RESEARCH
	WOLPOFF & ABRAMSON LLP
	WOODMONT COUNTRY CLUB

Appendix B - Continued

County/Region	Company
Prince George's	ACADEMY FORD SALES
	ADAMS-BURCH, INC.
	AMERICAN INSTITUTE OF PHYSICS
	ANDREWS OFFICE PRODUCTS
	APPLIED RESEARCH CORP.
	APRIA HEALTHCARE
	ASSOCIATION GROWTHENTRPS INC.
	AUTOHAUS TISCHER, INC.
	BARDON, INC.
	BEHNKE NURSERIES CO.
	BIOSPHERICS INCORPORATED
	BRANCH ELECTRIC
	BRANDYWINE COMPANIES/BRANDYWINE AUTO PARTS
	CELLULAR ONE
	CENTER FOR COMPUTING SCIENCES
	CENTRAL DATA PROCESSING, INC.
	CENTRE GROUP
	CHARLES BROS., INC
	COLONIAL STORAGE CO.
	COLONY SOUTH HOTEL
	COMPUTER SCIENCES CORP./SYSTEM SCIENCES DIV
	CORPORATE PRESS INC.
	D D D COMPANY
	D.P.I./HALPERIN DISTRIBUTING
	DAVIDSON SUPPLY CO., INC.
	DECISION SYS TECHNOLGIES, INC.
	DISTRICT PHOTO, INC.
	E G & G PRESSURE SCIENCE, INC
	EDGEMEADE OF MD
	FORT WASHINGTON HOSPITAL
	FRANK PARSONS PAPER CO., INC.
	FREESTATE ELECTRICAL CONSTRN
	GIANT FOOD, INC.
	GOLDEN OAKS NURSING AND CONVALESCENT CENTER
	GRACE CULINARY SYSTEMS
	GRAPHIC TRADE BINDERY INC. T/A CRAFTSMAN PRESS
	GREENBELT NURSING CENTER
	GREENHORNE & O'MARA, INC.
	HECHINGER
	HOLIDAY INN COLLEGE PARK
	HOPKINS-NAVIS MCDONALD'S
	HUGHES INFORMATION TECHNOLOGY SYSTEMS
	HUGHES STX CORPORATION
	HUTCH TEMPS, INC.
	INDUSTRIAL TOWEL SUPPLY
	J. C. PENNEY
	JASPERS RESTAURANT
	JOHNSON CONTROLS INC. RM 600-B
	KELLY PRESS
	KENTLAND VOL. FIRE DEPT.
	KMART
	LAND ROVER NORTH AMERICA, INC
	LASTING IMPRESSIONS LANDSCAPE CONTRACTORS
	LITTON SYSTEMS, INC., AMECOM DIVISION
	LUSTINE CHEVROLET, INC.

County/Region	Company
Prince George's-Con't	MARINER HEALTH CARE OF GREATER LAUREL
	MARYLAND CABLE
	MARYLAND HOSPITALITY INC.
	MARYLAND TURF CATERERS, INC.
	MASTERCRAFT INTERIORS LTD.
	MATTRESS DISCOUNTERS
	MAXIMA CORP.
	MCARDLE PRINTING CO., INCLUDE
	MCCREA EQUIPMENT CO., INC.
	MELWOOD HORTICULTUREAL TRAINING PROGRAM
	MICROBIOLOGICAL ASSOCIATES
	MICROS SYSTEMS INC.
	MID ATLANTIC SECURITY SERVICES INC.
	MONTGOMERY WARD
	MONTGOMERY WARD DISTRIBUTION CENTER
	MT. VERNON PRINTING CO.
	NANCY ADAMS
	NEWSLETTER SERVICES INC.
	NORDSTORM DISTRIBUTION CTR.
	NSI TECHNOLOGY SEVICES CORP.
	NYMA, INC.
	OAO CORPORATION
	OGDEN LOGISTICS SERVICES
	ORNDORFF & SPAID INC.
	PACE, INC.
	PEAKE PRINTERES
	PEPSI-COLA OF WASHINGTON, D.C. LP
	PRESIDENTIAL WOODS
	PRICE CLUB
	PULSAR DATA SYSTEMS
	REGENCY HEALTH SERVICES., INC
	ROADWAY EXPRESS
	SAFEWAY INC.
	SECURITY FENCE
	SFA INC.
	SMITHFIELD PACKING CO.
	SON'S QUALITY FOOD COMPANY
	SOUTHERN MD HOSP., INC.
	SPARKS PERSONNEL SERV., INC.
	ST. ANN'S INFANT AND MATERNITY HOME
	STEVENS & SON INC.
	STING SECURITY, INC
	STONE INDUSTRIAL
	THE ARC OF PRINCE GEORGES COUNTY
	TICKET MASTER
	TOYS R US
	TRW SYSTEMS SERV. CO.
	WASHINGTON BIBLE COLLEGE
	WASHINGTON HOMES, INC.
	WILLIAMSBURG RD. ASSOCS INC.
	WM. H. METCALFE & SONS., INC.

Appendix B - Continued

County/Region	Company
Southern Maryland	
Calvert	CALVERT COUNTY NURSING CENTER
	DIRECT MAIL MANGMT INC.
	KMART
Charles	CHANEY ENTERPRISES
	CHARLES CTY NURSING HOME & ADULT DAY SERVICES
	FACCHINA CONSTRUCTION COMPANY
	HECHINGER
	INTERSTATE GENERAL COMPANY L.P.
	JC PENNEY CO.
	PHYSICIANS MEMORIAL HOSPITAL
	SOUTHERN MARYLAND ELECTRIC COOPERATIVE
	SPRING DELL CENTER, INC.
	WAL-MART STORE
St. Mary's	B & B MAINTENCE OF MD, INC.
	EAGAN, MCALLISTER ASSOCIATES, INC.
	FAIRLAND MARKET, INC. -T/A MCKAY'S
	KMART
	LOWE'S HOME CENTERS, INC.
	MANTECH SYSTEMS ENGINEERING CORP.
	MCDONALD'S G.C.G C FAIR CORP.
	MINITEC CORPORATION
	PRB ASSOCIATES,INC.
	ST. MARY'S HOSPITAL
	VEDA INCORPORATED
	WAL-MART STORE
Susquehanna Region	
Cecil	CALVERT MANOR HEALTHCARE CENTER
	KMART
	MAGNOLIA HALL INC.
	T-BIRD DIVISION OF TTC
	TERUMO MEDICAL CORP.
	THIOKOL CORPORATION
	UNION HOSPITAL OF CECIL COUNTY
	WAL-MART
Harford	ASHLEY, INC.
	BATA SHOE CO
	CALIFORNIA MICROWAVE, INC.
	CELLO CORP.
	CHI CHI'S MEXICAN RESTAURANT
	CITIZENS NURSING HOME OF HOWARD COUNTY
	CONESTOGA WOOD SPECIALTIES, INC.
	CONSTAR INTERNATIONAL
	FAST FOOD MERCHANDISERS, INC.
	FRITO-LAY, INC.
	HARFORD COUNTY YMCA
	HARFORD MUTUAL INS. CO.
	HARFORD SANITATION SERVICES INC
	HOMESTEAD PUBLISHING CO.
	INDEPENDENT CAN COMPANY
	MONTOGMERY WARD
	OLD LINE PLASTICS, INC.
	PRICE BROTHERS CO.
	SUPERVALU, INC. MID-ATLANTIC DIV.
	TERO TEK INTERNATIONAL INC.
	TRI HOME HEALTH CARE, SER., INC.
	WAL-MART STORES INC.

County/Region	Company
Upper Shore	
Caroline	CAROLINE NURSING HOME
	CHOPTANK ELECTRIC COOPERATIVE, INC.
	INTERACTIVE MARKETING SERVICES INC.
	MARYLAND PLASTICS INC.
	PRESTON TRUCKING COMPANY, INC.
	THE BENEDICTINE SCHOOL FOR EXCEPTIONAL CHILD
	TRI-GAS & OIL CO., INC.
Dorchester	ALLEN FOODS
	COLDWATER SEAFOOD CORP.
	DORCHESTER GENERAL HOSPITAL, INC.
	MALLARD BAY
	PHILIP TECHNOLOGIES DIV
Kent	DIXON VALVE & COUPLING
	KENT & QUEEN ANNES HOSPITAL
	LAMOTTE COMPANY
	WASHINGTON COLLEGE
Queen Anne's	FISHERMANS INN
	TIDEWATER PUBLISHING CORP.
Talbot	CELESTE INDUSTRIES CORPORATION
	DELMARVA FOUNDATION FOR MEDICAL CARE, INC.
	EMPLOYMENT CONTROL, INC.
	MEMORIAL HOSP AT EASTON MD INC
	WAL-MART STORE
	WHEATON INDUSTRIES, INC.
Western Maryland	
Allegany	BIEDERLACK OF AMERICA
	CLEVECO FOODS, INC.
	CUMBERLAND & NURSING CENTER
	DEVLIN MANOR NURSING HOME
	FIRST FEDERAL SAVINGS BANK
	FRIENDS AWARE, INC.
	FROSTBURG HOSPITAL INC
	HUNTER DOUGLAS FABRICATION
	LIONS MANOR NURSING HOME
	MORAN MANOR NURSING HOME
	S. SCHWAB COMPANY
	SACRED HEART HOSPITAL
	SEARS
Garrett	BAUSCH & LOMB, INC.
	CUMBERLAND TIMES-NEWS
	CUPPETT & WEEKS NURSING HOME
	DENNETT RD MANOR, INC.
	FIRST UNITED NATIONAL BANK & TRUST
	FLUSHING SHIRT MFG CO.
	GARRETT CO. MEMORIAL HOSPITAL
	GOODWILL MENNONITE HOME INC.
	YODERS INC.
Washington	AVALON HOME, INC.
	BRAGUNNIER MASONRY CONSTR., INC.
	BROOK LANE PSYCHIATRIC CENTER
	C M OFFRAY & SON, INC.
	CALLAS CONTRACTORS, INC.
	CITICORP CREDIT SERVICES, INC.
	COLTON VILLA NURSING CENTER
	D.M. BOWMAN, INC.
	FAHRNEY-KEEDY MEMORIAL HOME, INC.
	HADLEY FARMS, INC.
	HAGERSTOWN GOODWILL INDUSTRIES, INC.
	HOME FEDERAL SAVINGS BANK
	HOMEWOOD RETIREMENT CTRS, INC.
	HONEYWELL ENVIRONMENTAL AIR CONTROL
	JAMISON DOOR COMPANY

Appendix B - Continued

County/Region	Company
Western MD-Con't	
Washington	MACK TRUCKS INC.
	MANPOWER
	PEAK PERFORMANCE INSTITUTE INC.
	PENN - MAR ORGANIZATION
	PHOENIX COLOR CORP.
	REDLAND BRICK INC.
	REEDERS MEMORIAL HOME
	ROADWAY EXPRESS INC.
	ROHR INC.
	STATTON FURNITURE MFG CO.
	THE HERALD ML CO.
	THE POTOMAC EDISON COMPANY
	TRISTATE ELECTRICAL SUPPLY CO., INC.
	VENICE MOTEL & RESTAURANT INC.

County/Region	Company
Out-Of-State/	ABF FREIGHT SYSTEM, INC.
Unknown Maryland	AMERICAN TECHNICAL RESOURCES INC.
	ARMSTRONG WORLD INDUSTRIES, INC.
	ASPLUNDH TREE EXPORT CO.
	BALMAR, INC.
	BAREFOOT GRASS LAWN SERVICE
	BARTLETT NUCLEAR, INC.
	BERTUCCI'S RESTAURANT CORP.
	BOAT AMERICA CORP. (BOAT/US)
	BRUNSWICK RECREATION CENTERS
	C. W. WRIGHT CONSTRUCTION CO. INC.
	CAMPBELL SOUP COMPANY
	CAVALIER MAINTENANCE SVCS INC.
	CHOICE SYSTEMS, INC.
	CINEPLEX ODEON CORP.
	COMPUWARE CORP.
	CROWN CORK & SEAL COMPANT, INC.
	DELMARVA POWER
	DON RICHARD ASSOCIATES
	EBON RESEARCH SYSTEMS
	ESTES EXPRESS LINES
	FABRIC CENTERS OF AMERICA
	GATX LOGISTICS, INC.
	GENERAL HEATING ENGINEERING CO. INC.
	H. & R. BLOCK EASTERN TAX SERV.
	HERON POINT OF CHESTERTOWN, PUMH INC.
	HOME BENEFICIAL LIFE INS. CO.
	JACKSON AND TULL
	KINDERCARE LEARNING CENTER
	KINKO'S
	LA MADELEINE FRENCH BAKERY & CAFE
	LOWE'S COMPANIES, INC.
	MACRO INTERNATIONAL INC.
	MARTA TECH
	MCCRORY CORP. DEBTOR-IN-POSSESSION
	NTW
	NURSE WORKS INC.
	OHIO CASUALTY INSURANCE GROUP
	PIONEER TECHNOLOGIES GROUP
	PJK FOOD SERVICE CORP.
	POTOMAC ELECTRIC POWER CO. (PEPCO)
	PREMIER NURSE STAFFING
	RED ROOF INN
	REGIS CORPORATION
	SAIC
	SHEETZ, INC.
	SOUTHERN MGT CORP.
	TEAM INCORPORATED
	TEMPORARY SOLUTIONS INC.
	TRESSLER LUTHERAN SERVICES
	VANCE INTERNATIONAL INC.
	XEROX CORPORATION